



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-2868
Plant ID No.: 087-00028
Applicant: Erlewine Concrete Company
Facility Name: Spencer
Location: Spencer, Roane County
SIC / NAICS Code: 3273 / 327320
Application Type: Construction
Received Date: December 20, 2010
Engineer Assigned: Mindy Hendrickson
Fee Amount: \$1,000.00
Date Received: December 20, 2010
Complete Date: January 19, 2010
Applicant Ad Date: December 23, 2010
Newspaper: *Charleston Gazette*
UTM's: Easting: 473.0865 km Northing: 4294.0174 km Zone: 17
Description: Applicant proposes the construction and operation of a ready mix concrete batch plant. The plant has a maximum design production rate of 150 tons per hour . The plant will produce a maximum of 876,000 tons of concrete per year and will operate for a maximum of 5,840 hours per year.

BACKGROUND

A G50-B construction general permit (G50-B081) was initially submitted by Erlewine Concrete Company (Erlewine) on July 20, 2010. The application met all G50-B requirements except for the siting criteria. Two (2) 300 foot waivers were included in the initial application. A site inspection determined that more waivers would be needed to issue a general permit registration for the requested site location. One (1) person would not sign a 300 foot waiver. Therefore, a Rule 13 construction permit was required.

The Rule 13 construction permit was submitted on December 20, 2010. The new application included seven (7) waivers that were signed when the application was attempting to qualify for the G50-B general permit registration.

The original affidavit for a newly submitted Class I legal advertisement was received on January 14, 2011. During the initial G50-B081 application process, three (3) updates to the emissions and calculations were provided by the consultant who prepared the application. The 13-2868 application contained the calculations and emissions from the second update rather than from the third update. The correct emissions and calculations (from third update) have now been included with the Rule 13 application. The correct emission values were used in the most recent Class I legal advertisement placed by the applicant.

DESCRIPTION OF PROCESS

Erlewine Concrete Company is planning to construct and operate a ready mix concrete plant in Spencer, Roane County, West Virginia. The application states this new facility will be in the same location as an old concrete plant site owned by "Barlette Concrete", which was constructed in 2007. I found a Bartlett Concrete in the near vicinity, but it was permitted with a modification in 2000 (13-1708A, ID 087-00006).

Sand and gravel will be delivered to open stockpile OS-01 and OS-02 by truck. A front-end loader will transfer materials to top fed partially enclosed storage bin BS-01, which will then transfer to belt conveyor BC-01. The sand and gravel will then be fed to the partially enclosed mixing bin BS-02 and onto belt conveyor BC-02 for delivery to the concrete mixing truck.

Batch concrete will be delivered by truck to the concrete silo BS-03 and sent to the batch weigh bin WH-01 for transfer to the concrete mixing truck.

Protocol for the mixing process requires that the sand and gravel have a high moisture content before loadout to the concrete mixing truck for proper binding. Therefore, the stockpiles will be kept moist at all times.

Upon construction, Erlewine's Spencer facility will consist of one (1) weigh batcher, one (1) dust collector, two (2) belt conveyors, three (3) storage bins, and two (2) open stockpiles. See the following table for description, maximum throughput, control equipment, and maximum storage for all permitted equipment at the facility:

Table 1: Equipment summary

Equipment ID No.	Description	Year Installed/Modified	Maximum Capacity		Control Equipment
			tons / hr	tons / yr	
WH-01	Weigh batcher – MTM 10-27	2011	150	876,000	PE, WS
BH	Dust Collector – Hopperjet R01 – reverse air	2011			
BC-01	Belt Conveyor – sand and gravel	2011	150	876,000	
BC-02	Belt Conveyor – sand and gravel	2011	150	876,000	
Storage			Storage Capacity	Maximum Yearly Throughput	
BS-01	Storage Bin – sand and gravel	2011	20 tons	876,000 tons / yr	PE, WS
BS-02	Mixing Bin – sand and gravel	2011	100 tons	876,000 tons / yr	PE, WS
BS-03	Storage Silo – cement	2011	100 tons	876,000 tons / yr	BH
OS-01	Open Stockpile – sand – 8,869 ft ² max base	2011	1,000 tons	876,000 tons / yr	WS
OS-02	Open Stockpile – gravel – 8,869 ft ² max base	2011	1,000 tons	876,000 tons / yr	WS

PE = partial enclosure, WS = water spray

SITE INSPECTION

A pre-construction inspection was completed by the John Moneypenney on August 31, 2010 for the initial general permit construction application, G50-B081. Two (2) 300 foot waivers were included with the general permit application. Upon visiting the site, John determined there would be many more waivers needed. If waivers were achieved, the proposed site would be adequate for a concrete batch facility.

Directions as given in application: Route 119 South to Spencer. Turn left at center red light and proceed approximately 2 miles. Plant located on left hand side of the road.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive dust from the haul roads, work areas, and stockpile areas will be controlled by a system of water sprays. An additive to prevent freezing will be utilized in the winter months when freezing conditions are present.

Point source emissions include emissions from material (sand, gravel, and cement) transfers. Fugitive emissions consist of emissions from paved haulroads, unpaved haulroads, and wind erosion from storage piles. Emissions have been calculated by the applicant using the WVDAQ G50-B emission calculation spreadsheets. Emission calculations provided in application 13-2868 were incorrect. They were the second update from previous discussions with Donna Toler, the consultant who completed the G50-B081 application. There was a third correction made to the emissions, and this third corrected version is the correct version to be used.

The maximum controlled emissions for Erelewine's Spencer facility are summarized in the following table:

Table 2: Proposed facility emissions for 13-2868

Emission Source	Controlled PM Emissions		Controlled PM ₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.14	0.63	0.07	0.30
Unpaved Haulroad Emissions	0.02	0.00	0.01	0.00
Paved Haulroad Emissions	3.48	0.63	0.68	0.12
Fugitive Emissions Total	3.65	1.27	0.75	0.42
Point Source Emissions				
Transfer Point Emissions	5.94	9.78	3.38	6.25
Point Source Emissions Total (PTE)	5.94	9.78	3.38	6.25
FACILITY EMISSIONS TOTAL				
	9.58	11.05	4.13	6.67

Therefore, the facility's potential to emit (PTE) is 9.78 tons per year of total particulate matter.

REGULATORY APPLICABILITY

The following state regulations apply.

45CSR7 - To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

The purpose of this rule is to prevent and control particulate matter air pollution from manufacturing processes and associated operations.

The facility will be subject to the 20% opacity limit set forth in section 3, the weight emission standards set forth in section 4, and conditions on controlling fugitive particulate matter set forth in section 5.

The facility will demonstrate compliance with the opacity limit set forth in section 3 of this rule by conducting monthly opacity checks in accordance with 40 C.F.R.

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Erelewine Concrete Company
Spencer

Part 60 Method 22. The facility has the potential to emit 9.37 pounds of particulate matter per hour (from point source operations). The facilities maximum process weight can be as high as 240 tons per hour (480,000 lb/hr). From Table 45-7A the facility has an allowable emission rate of 46.2 pounds of particulate matter per hour. Therefore, the facility is in compliance with section 4 of this rule. The facility will demonstrate future compliance with this rule by maintaining daily and monthly records of the amount of material processed through the plant.

45CSR13 - Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

The purpose of this rule is to set forth the procedures for stationary source reporting, and the criteria for obtaining a permit to construct and operate a new stationary source which is not a major stationary source, to modify a non-major stationary source, to make modifications which are not major modifications to an existing major stationary source and to relocate non-major stationary sources within the state of West Virginia.

The applicant is applying for a construction permit for their proposed Spencer site. The facility is subject to the following sections of this rule: reporting requirements, requirements for modifications of stationary sources, demonstrating compliance with stationary sources, public review procedures, and permit application fees.

45CSR22 - Air Quality Management Fee Program

This rule establishes a program to collect fees for certificates to operate and for permits to construct, modify or relocate sources of air pollution.

The facility will demonstrate compliance with this rule by paying annual fees.

The following rules do NOT apply.

45CSR16 - Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60

This rule establishes and adopts standards of performance for new stationary sources promulgated by the United States Environmental Protection Agency pursuant to section 111(b) of the federal Clean Air Act, as amended (CAA).

There are no current standards of performances for new stationary sources that apply to this facility.

40CFR60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Plants

The provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants. Nonmetallic mineral processing plants are defined by this rule as any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

The facility does not crush or grind the aggregate in the process. Therefore, this rule does not apply.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

No non-criteria regulated pollutants will be emitted from this facility.

AIR QUALITY IMPACT ANALYSIS

The proposed construction associated with this application does not constitute a major source as defined in 45CSR14. As a result, no air quality impact analysis was required.

MONITORING OF OPERATIONS

The facility is to monitor daily, monthly, and 12-month rolling total of hours of operation (hr/day) and material processed (ton/day or cubic yards/day). Records are to be certified as true and accurate by a responsible official upon the request of the Director. Certified records shall be made available to the Director or his duly authorized representative upon request.

Visual emissions checks of the plant are to be conducted at least once per month. Records are to be certified as true and accurate by a responsible official upon the request of the Director. Certified records shall be made available to the Director or his duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in permit construction application R13-2868 indicates that compliance with all applicable regulations should be achieved when all of the proposed particulate matter control methods are in operation. Therefore, the granting of a permit to Erlewine Concrete Company for the construction of a ready mix concrete batch plant located in Spencer, Roane County, West Virginia, is hereby recommended.

Mindy Hendrickson
Permit Engineer

February 14, 2011

Date